TEXTILE TECHNOLOGY DIGEST

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Abstracts

ORGANIC FIBERS I

Cellulose fiber structure. Structure of natural and synthetic cellulose fibers. H. Staudinger, P. Herrbach & H. Stock. *Die Makromolekular Chemie 1,* Nos. 1-2, 60-9 (Sept. 1947).

Viscose fibers with a degree of polymerization (DP) of over 1000 do not have the same desirable characteristics as cotton with the same DP. Comparison of natural and regenerated cotton nitrate fibers indicated that these desirable qualities were due not only to the length of the molecule, but also to the molecular stratification in the naturally grown fiber. The difference in solubility between natural and regenerated cellulose acetate was also correlated with the molecular arrangement of natural fibers. TTD: 5-48

Vegetable fibers I 1

Flax treatment. Treating linen with ozone. P. Eckert & E. Kanert. *Kunstseide u. Zellwolle 25,* 247-51 (July, Aug. 1947); *Chimie et Industrie 59,* No. 3, 273 (Mar. 1948).

To separate the ligneous parts from linen, the flax straw is broken mechanically several times in the presence of ozone at temperatures between 20 and 30°C and humidity between 12 and 14%. Each operation lasts 2 hrs, and 25 to 60 m^3/h of ozone are used. The properties of the fibers obtained are identical with those of the fibers obtained by the classic method. TTD: 5-48

Linen retting. Biochemical study of linen retting. W. B. Jackson & R. J. McIlroy. *New Zealand J. Sci. Technology 28,* No. 1, 20-30 (July, 1946); *Chimie et Industrie 59,* No. 3, 274 (Mar. 1948).

The progression of the biological decomposition of linen was followed by means of conductivity measurements and chemical analysis. At the beginning of the retting, the cellulose is severely attacked and undergoes an appreciable loss. At the end of the reaction, the pectin content is not more than 50%, whereas the hemicellulose is only slightly attacked. A polysaccharide formed of a mixture of glucose and glucuronic acid is found in the straw as a result of the microbic attack. TTD: 5-48

Minor fibers. Study of typha or massette as a source of textile fibers. F. Szymanek. *Textiles* Nos. 2-3, 151-64; 141-60 (June, Sept., 1947); *Chimie et Industrie 59,* No. 3, 273 (Mar. 1948).

The yield of unspun fibers from typha is superior to that of most vegetables. Though expensive, the cost of degumming is less than that for other plants, and the operation is very simple. With respect to fineness, the fibers from typha compare favorably with those of jute, but they have a lower resistance to dampness. TTD: 5-48

Ramie. Loose bonds and their cleavage rate in hydrolytically degraded ramie. E. Husemann. *Die Makromolecular Chemie 1,* Nos. 1-2, 140-57 (Sept. 1947).

Through study of chain-length distribution in polymeric homologues of hydrolytically degraded native and mercerized ramie, through quantitative fractionation and comparative osmotic and viscometric measurements, it has been established that the substances with a DP (degree of polymerization) between 400 and 500 are relatively homogeneous. As in the case of cotton, these data offer an explanation for the existence of easily broken bonds spaced at intervals of about every 500 glucose esters in the ramie molecule, which is comparatively homogeneous and has a DP of about 3000. The ratio of the change rate of normal β-glucoside bonds to that of the loose bonds is 1:5000, whereas, in cotton, the ratio is 1:1000. This ratio is the same for both native and mercerized products, in spite of the considerable difference in cleavage rates, and it is independent of the fiber structure. TTD: 5-48

Bast fiber treatment. Method for producing spinnable bast fibers in form of a band. Gminder (Ulrich) GmbH. Ger. P. 718 818, Mar. 24, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947). TTD: 5-48

Bleaching bast fibers. Process for bleaching bast fibers. Korte & Metzer. I. G. Farbenindustrie A. G. Ger. P. 722 941, July 28, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947). TTD: 5-48

Animal fibers — I 2

Raw Silk. Cocoon fibre starting device. Mitteldeutsche Spinnhütte GmbH. Ger. P. 727 008, Oct. 24, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Rayons — I 3 a

Cellulose esters. Production cycles for manufacture of cellulose acetate and cellulose propionate at I. G. Farbenindustrie A. G. J. S. Tinsley. PB 58448, Nov. 1946. 9 pp. *Bibl. Sci. Ind. Reports 4,* 852 (Mar. 7, 1947). Price: $1.00 (Microfilm or Photostat).

Cellulose acetate is produced using methylene chloride as solvent. The report describes the pretreatment of the cellulose (either linters or creped pulp), operating procedure, acetylation, hydrolysis, purification, and drying. Ordinary washing procedure is used for rayon grade cellulose acetate; for plastics or film additional acid treatment is required. Labor requirements for the process are given. Also described are the processes for the production of fibrous cellulose triacetate and cellulose propionate by the methylene chloride process. Cotton linters only were used for cellulose propionate due to the high viscosity required. TTD: 5-48

Cellulose fibers. Introduction of connecting bridges in cellulose fibers by means of diisocyanates. P. Eckert & E. Herr. *Kunstseide u. Zellwolle 25,* 204-10 (May, June, 1947); *Chimie et Industrie 59,* No. 3, 272 (Mar. 1948).

Cellulose fibers treated with compounds such as octamethylene diisocyanate are characterized by an increased resistance to humidity and dryness and a decreased swelling capacity. Their extensibility is diminished and, in certain cases, their solubility in alkalis. These fibers cannot be dyed, acetylated or xanthogenated. TTD: 5-48

Delustering. Delustering of cellulose hydrate fiber material. Schoeller, I. G. Farbenindustrie A. G. Ger. P. 707 320, June 19, 1941. 3 pp. (Addition to Ger. P. 685 765). *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947). TTD: 5-48

Delustering. Process for delustering rayon. Rohm & Groner, Chemische Fabrik Rohn & Haas GmbH. Ger. P. 710 444, Sept. 13, 1941. 3 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947). TTD: 5-48

Increasing stretch. Process for increasing extensibility of stretched rayon threads made of cellulose derivatives. Sippel. Deutsche Acetat-Kunstseiden A. G. Ger. P. 727 737, Nov. 11, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947). TTD: 5-48

Increasing stretch. Process for increase of extensibility of acetate-stretched rayon. Sippel. Deutsche Acetat-Kunstseiden A. G. Ger. P. 729 010, Dec. 8, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947).

The rayon is treated with mixtures of $CHCl_3$ and ethyl acetate. TTD: 5-48

Synthetic fibers — I 4

Polyamides. Validity of viscosity rule for caproic acid polyamides. H. Staudinger & H. Schnell. *Die Makromolekular Chemie 1,* Nov. 1-2, 44-60 (Sept. 1947).

The value of the viscosity rule has been established for caproic acid polyamides with a molecular weight (MW) up to 20,000. It was found that caproic acid polyamides with an MW of 1500 to 15000 are unbranched, since the MW of both end groups agrees with the viscometric MW. The relationship between the breaking strength of the fibers and the long chains of the polyamide was studied and it was found that the logarithm of the breaking strength was directly proportional to the MW. TTD: 5-48

Surface chemistry. Recent advances in surface chemistry. E. G. Cockbain. *Research 1,* No. 3, 115-22 (Dec. 1947).

In an outline of the recent developments in surface chemistry which have aroused the most general interest, the surface films of proteins and synthetic polymers are discussed. In contrast to water-soluble polymers such as polyvinyl alcohol and polyacrylic acid which form fluid films, nylon gives a highly condensed gelatinous film (except on very acid substrates). This is probably due to the hydrogen banding between the keto-imido groups of the polymer chain. TTD: 5-48

Synthetic fibers. Electron microscopic research on submicroscopic fibrils in synthetic fibers. E. Husemann & A. Carnap. *Die Makromolekular Chemie 1,* Nos. 1-2, 158-63 (Sept. 1947).

Electron microscopic studies of synthetic fibers which have been damp-ground in the ball mill as well as hydrolytically degraded have made it possible to determine the influence of the DP and orientation of the cellulose molecule on fibrillar cleavage. It was established that an increase in the DP on the manner of cleavage occurred. On the other hand, an improvement in the orientation of the macromolecule by means of stretching in the precipitation bath effects development

of finer, more even fibril, which, up to now, has been done only with natural fibers. Additional stretching of the finished fibers produces orientation in the outer edges only and does not affect the fibril structure. Complete reproduction of the natural structure, however, is not yet possible by this method; since there is no development of fibril sections after hydrolytic degradation, there is no appearance of lattices at long intervals (Langperiodengitter). These fibril sections are the typical structural elements of naturally grown fibers, since, after precipitation, the loose linkages in the cellulose molecules do not lie in the same plane. Materials studied include Lanusa 1 and 2, acetate rayon, Sedura Lilienfeld, and viscose. 12 illustrations. TTD: 5-48

Modifying nylon. Modification of properties of articles derived from nylon. Imperial Chemical Industries, Ltd. French P. 919 399, Mar. 6, 1947; *Chimie et Industrie 59,* No. 3, 271 (Mar. 1948).

Articles shortened by disorientation are first impregnated with an acid catalyst and then exposed to the vapors of formaldehyde and a monovalent alcohol for 10-30 min at temperatures between 100 and 120°C. TTD: 5-48

Elastic band. Device for producing elastic thread bands from endless band of artificial fiber. Wörn, I. G. Farbenindustrie A. G. Ger. P. 713 334, Nov. 5, 1941. (Supplement to Ger. P. 703 383). *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Elastic fibers. Device for producing elastic fiber bands from artificial fiber. Dilchert, "Rhodiaseta" Deutsche Acetat-Kunstseiden A. G. Ger. P. 716 949, Feb. 2, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Elastic band. Method of producing elastic fiber bands from endless thermoplastic fibers. Esselmann & others, I. G. Farbenindustrie A. G. Ger. P. 721 836, June 23, 1942. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947). TTD: 5-48

Elastic band. Device for producing elastic fiber bands from endless artificial fibers. Clapham, I. G. Farbenindustrie A. G. Ger. P. 725 782, Sept. 30, 1942. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Elastic band. Device from producing elastic thread band from artificial threads. Henle & Schmauder, I. G. Farbenindustrie A. G. Ger. P. 729 042, Dec.

9, 1942. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Fiber processing I 6

Fiber conditioner. Wool fiber conditioner. Anon. *Textile Industries 111,* No. 7, 143 (July, 1947).

A brief illustrated description of a fiber conditioner which disintegrates and untangles foreign matter from wool, making it easily removable. TTD: 5-48

INORGANIC FIBERS II

Asbeston. Old makes the new Asbeston. Anon. *Textile Industries 111,* No. 10, 105-8 (Oct. 1947).

Asbeston, a fabric produced from asbestos fibers, is discussed in relation to its manufacture, uses, and future application. TTD: 5-48

FIBER TO YARN III

Fiber preparation III 1

Card grinding. Training card grinders. Anon. *Textile Industries 111,* No. 7, 72-4 (July, 1947).

Details of card operations and card grinding are discussed with respect to the training of card grinders. TTD: 5-48

Fleece conveyor. Arrangement for conveying the fleece to the carder. Rieter (Joh. Jacob) & Cie, A. G. Ger. P. 704 482, Mar. 31, 1941. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Drawing frame. Guide pressure rollers, for drawing frames, arranged in pairs. Stahlecker, Vereinigte Kugellagerfabriken A. G. Ger. P. 707 060, June 21, 1941. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Drawing frame stop motion. Drawing frame with an electric stop motion. Friedrich Michaelis. Ger. P. 707 510, June 24, 1941. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Drawing roller. Small belt drawing roller. Hermann Kluftinger. Ger. P. 709 084, Aug. 6, 1941. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Drawing frame. Roller bearing for pressure rollers for drawing frames. Stahlecker & Raible. Vereinigte

Kugellagerfabriken A. G. Ger. P. 711 273, Sept. 29, 1941. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Drawing rollers. Guide for small belt drawing rollers. Ernst Toenniessen. Ger. P. 712 576, Sept. 30, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Drawing frame saddle. Drawing frame saddle for slubbing and spinning frames. Heinrich Sibbing. Ger. P. 712 779, Oct. 24, 1941. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947). TTD: 5-48

Drawing roller. Small belt drawing roller. Hermann Kluftinger. Ger. P. 712 800, Oct. 24, 1941. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Spreading mechanism. Spreading mechanism for textile machines, especially for carding machines. Brown, Boveri & Cie, A. G. Ger. P. 712 838, Oct. 27, 1941. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Automatic stop. Automatic stop for drawing, carding, and similar preparatory textile machines. Bässler. Sächsische Textilmaschinenfabrik. Ger. P. 712 938, Oct. 29, 1941. *Bibl. Sci. Ind. Report 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Roving. Device for producing stretchable roving from endless fibers, especially artificial fibers. Schmitt. Sächsische Textilmaschinenfabrik. Ger. P. 715 374, Dec. 19, 1941. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Drawing roller. Drawing roller with a short leather belt drive. Hermann Kluftinger. Ger. P. 715 062, Dec. 13, 1941. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Drawing roller. Drawing roller with a belt drive. Hermann Kluftinger. Ger. P. 715 839, Jan. 8, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Drawing roller. Single belt drawing roller. Hans Bischoff. Ger. P. 717 934, Oct. 22, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Willower. Willower for fiber material. Conrad Sieper. Ger. P. 717 990, Feb. 27, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Belts. Double belts for drawing rollers. Schlipp & Böttle, Spinnfaser A. G. Ger. P. 718 112, Mar. 3, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Drawing frame. Pinband drawing frame for slubbing carded yarn. Deutsche Spinnereimaschinenbau A. G. Ger. P. 718 665, Mar. 18, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Card. Carder, especially for rayon staple. Schlipp & Böttle, Spinnfaser A. G. Ger. P. 719 286, Apr. 4, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Drawing bast fibers. Drawing roller for bast fibers. Paul Liebscher. Ger. P. 719 469, Apr. 9, 1942 *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Drawing frame. Short belt drawing frame. Hermann Kluftinger. Ger. P. 719 526, Apr. 10, 1942. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Slubbing guide. Slubbing guide for drawing rollers. Keyser, Forschungsgesellschaft Deutscher Wollkammer und Kammgarnspinner E. V. Ger. P. 719 771, Apr. 16, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Drawing frame. Loading device for drawing frames with adjustable drawing rollers. Altfillisch, Deutsche Spinnereimaschinenbau A. G. Ger. P. 720 201, Apr. 28, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Stretching roller. Short belt stretching roller. Hermann Kluftinger. Ger. P. 721 878, June 22, 1942. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Drawing frames. Loading device for drawing frames. Ernst Toenniessen. Ger. P. 722 442, July 10, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Drawing frame. Drawing frame for carded yarn and staple fiber preparatory machines. Steinhage, C. F. Solbrig Söhne A. G. Ger. P. 723 318, Aug. 3, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Card feed. Feeding device for flat carding machines. Krienelke. Sächsische Textilmaschinenfabrik. Ger. P. 725 646, Sept. 30, 1942. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Drawing frame. Guiding pressure rollers for drawing frames arranged in pairs. Stahlecker & Raible, Vereinigte Kugellagerfabriken A. G. Ger. P. 725 691, Sept. 28, 1942. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Drawing rollers. Combination drawing rollers for slubbing frames. Lothar Rehm & Sächsische Textilmaschinenfabrik. Ger. P. 725 999, Oct. 3, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Carding bast fiber. Dusting device for a bast thread carder. Curt Kaess. Ger. P. 727 007, Oct. 23, 1942. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Cleaning fiber and waste. Machine for separating and cleaning cotton, cotton waste, flax waste, hemp waste and similar fiber goods. Ludwig Schorsch. Sächsische Textilmaschinenfabrik. Ger. P. 729 824, Dec. 23, 1942. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Blends III 2

Blending. Device for packing the thread material in a mixing chamber. Schneider, Sächsische Textilmaschinenfabrik. Ger. P. 713 392, Nov. 6, 1941. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Tension control. Tension control for drawing frames on textile machines. Schlegel & Stein, Allgemeine Elektricitäts-Gesellschaft. Ger. P. 720 200, Apr. 28, 1942. *Bibl. Sci. Ind. Reports 4,* 838 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Blending. Device for emptying a thread material mixing chamber. Gavazzi, Sächsische Textilmaschinenfabrik. Ger. P. 729 041, Dec. 9, 1942. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Thread guard. Thread guarding arrangement for a warp lattice. Maschinenfabrik Schweiter A. G. Ger. P. 723 289, Aug. 1, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawings included. TTD: 5-48

Spinning III 3

Automatic spinning. Automatic spinning control at Fieldcrest Mills. Anon. *Textile Industries 111,* No. 7, 80-1 (July, 1947).

An illustrated description of a pneumatically operated device for a spinning frame which automatically produces packages of uniform size with tailings of the same length. This device decreases the amount of waste, saves time, and increases production. TTD: 5-48

Balloon control. Balloon control. Anon. *Textile Industries 111,* No. 7, 87 (July, 1947).

An illustrated description of a new type of separator that eliminates the jerky motion of the traveler and reduces wear on the rings. TTD: 5-48

Doubler-twister. Doubler-twister. Anon. *Textile Industries 111,* No. 10, 144 (Oct. 1947).

Features of a duplex doubler-twister, designed for heavy packages, are briefly reviewed. TTD: 5-48

Roll covering. Synthetic roll covering material. Anon. *Textile Industries 111,* No. 7, 139 (July, 1947).

A brief note on a combination synthetic rubber and plastic roll covering material, Duscot. TTD: 5-48

Structure constants. Cotton yarn structure constants. John Duerst, Clark Thread Co. *Textile Industries 111,* No. 9, 82-6 (Sept. 1947).

A paper on the Duerst formula and its practical application to yarn problems. The relationship of yarn twist, yarn diameter and yarn strength to the fibers per

cross section is proved, and the formulas regarding this relationship are derived. TTD: 5-48

Yarn numbering. Nomogram. Anon. *Textile Industries 111,* No. 9, 98-9 (Sept. 1947).

A chart is given and explained for converting yarn numbers in any length/weight system to denier or grex units. TTD: 5-48

Mule spinner. Device for driving the feeding mechanism of a mule spinner. Schubert & Seifert. Sächsische Textilmaschinenfabrik. Ger. P. 706 353, May 24, 1941. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Twisting braid. Braid twisting frame. Rudolf Landwehr. Ger. P. 707 116, June 13, 1941. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawings included. TTD: 5-48

Spindle. Single jointed support for textile spindles. Stahlecker. Vereinigte Kugellagerfabriken A. G. Ger. P. 707 407, June 21, 1941. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Spindle. Spinning spindle with a detachable top. Carl Staufert. Ger. P. 707 512, June 24, 1941. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Spinning frame. Ring brace for ring spinning frames. Quosig. Sächsische Textilmaschinenfabrik. Ger. P. 710 608, Sept. 17, 1941. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Spindle drive. Spindle drive for spinning and twisting frames with several groups of spindles. Hamel (Carl) A. G. Ger. P. 712 547, Oct. 21, 1941. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Hydraulic drive. Hydraulic drive for mule spinners. Schubert & Vogel. Sächsische Textilmaschinenfabrik. Ger. P. 712 626, Oct. 25, 1941. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947). TTD: 5-48

Spinning and twisting. Ring spinning or ring twisting frame with movable upper and lower jack frame. Förster. Sächsische Textilmaschinenfabrik. Ger. P. 712 939, Oct. 29, 1941. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Regulator. Spinning reguator. Fleisser. Siemens-Schuckertwerke A. G. Ger. P. 713 010, Oct. 30, 1941. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Regulator. Spinning regulator. Waltz. Siemens-Schuckertwerke A. G. Ger. P. 713 175, Nov. 3, 1941. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Twisting. Twisting spindle. Ring, "Rhodiaseta" Deutsche Acetat-Kunstseiden A. G. Ger. P. 713 440, Nov. 7, 1941. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Pot spinning. Pot spinning frame. Kiriu Eizabauru Negishi. Ger. P. 714 470, Nov. 29, 1941. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Spinning. Ring spinning or ring twisting frame. Feldmuehle A. G. Ger. P. 716 386, Jan. 20, 1942. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947).

TTD: 5-48

Spinning frame. Centrifugal spinning frames for coarse yarn. Müller & others. Ger. P. 716 466, Jan. 24, 1942. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawings included. TTD: 5-48

Twisting. Twisting spindle. Opderbeck, "Rhodiaseta" Deutsche Acetat-Kunstseiden A. G. Ger. P. 716 551, Jan. 23, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Speed regulator. Method for regulating the spindle speed for a two-cylinder mule spinning machine. Oertel. Siemens-Schuckertwerke A. G. Ger. P. 716 552, Jan. 24, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Spindle plate. Spindle plate. Müller & Janschek, Vereinigte Jute-Spinnereien und Webereien A. G. Ger. P. 716 950, Feb. 2, 1942. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Spindle drive. Single spindle drive for spinning- and twisting frames. Hamel (Carl) A. G. Ger. P.

717 935, Feb. 26, 1942. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Wingspinning and wingtwisting. Spool frame replacement device for wingspinning- wingtwisting and similar textile machines. Franz Peul. Ger. P. 718 328, Mar. 9, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Spindle drive. Spindle drive for spinning- and twisting machines. John J. Rieter & Cie. Ger. P. 719 130, Aug. 26, 1942. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Spindle drive. Group drive for spindles on spinning, twisting, and similar machines. Grossmann, Deutsche Spinnereimaschinbau A. G. Ger. P. 719 527, Apr. 10, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Spindle. Spinning spindle and exchangeable bearing sleeve. Eugen Grill & Alfred Neher. Ger. P. 721 879, June 22, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Spinning and twisting. Ring spinning- and ring twisting frame with the jack- or ring frame moving as the work proceeds. John J. Rieter & Cie. A. G. Ger. P. 722 441, July 10, 1942. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Spinning frame. Ring frame device. Hochsteger, Baumwollspinnerei Am. Stadtbach in Augsburg. Ger. P. 723 376, Aug. 3, 1942. *Bibl. Sci. Ind. Reports 4,* 838 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Tension gage. Thread tension gage arrangement for ring spinning and ring twisting frames. Oertel. Siemens-Schuckertwerke A. G. Ger. P. 723 555, Aug. 11, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947). TTD: 5-48

Roller for spinning machines. Lower roller with roller bearings, especially for spinning machines. Raible, Vereinigte Kugellagerfabriken A. G. Ger. P. 725 855, Oct. 1, 1942. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Circular looms. Device for making warp openings for circular weaving looms. Saint Frères Société Anonyme. Ger. P. 726 534, Oct. 14, 1942. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Winding III 4

Changing spools. Method and device for changing lattice spools in groups. Reiners & others. W. Schlafhorst & Co. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawings included. TTD: 5-48

Spooling. Device for receiving the wound spool from a spooling machine. Geiringer, Halstenbach & Co. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Winder. Pull skein winder. Anon. *Textile Industries 111,* No. 10, 151 (Oct. 1947).

An illustrated description of an automatic pull skein winder for the production of embroidery yarns.

TTD: 5-48

Winding. Winder attachments by Universal. Anon. *Textile Industries 111,* No. 10, 142 (Oct. 1947).

Some new attachments for winding machines are described. TTD: 5-48

Winding machine. Winding machines—principles and practices. Jesse W. Stribling, Universal Winding Co. *Textile Industries 111,* No. 8, 89-94, No. 9, 94-7, No. 10, 110-12, No. 11, 110, 113-14, 117, No. 12, 107, 109, 111, 113, 115, 117; *112,* No. 1, 105, 107, 109, 111, 113, No. 3, 123, 125, 127, 129, 131-2 (Aug.-Dec. 1947; Jan., Mar. 1948).

A series of articles on machines for winding textile yarns on self-supporting packages. The No. 50 precision winder is dealt with in considerable detail because it is typical of the other types of precision winders. (cont.) TTD: 5-48

Winding cone. Chas. K. Dunlap (to Sonoco Products Co.). USP 2 430 710, Nov. 11, 1947.

An improved cone or core for winding yarn has a winding surface consisting of bands of extending fibers of graduated lengths, so formed either by differential abrasion of the surface or by a spray coating or the like. Such a surface secures the end loops of a yarn package against slippage and assures a more even tension during winding or unwinding. TTD: 5-48

Spool support. Swinging support frame for spools in winding machines. Hamel (Carl) A. G. Ger P.

691 958, Apr. 7, 1941. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Stripping leftover yarn. Device for stripping off the leftover yarn from spools. Stutz & Cie. Ger. P. 707 684, July 2, 1941. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Thread guide. Thread guiding cylinder. W. Schlafhorst & Co. Ger. P. 708 233, July 16, 1941. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Yarn ball. Yarn ball. Mez A. G. Ger. P. 709 085, Aug. 6, 1941. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Holding device. Device for holding the casing or spool on winding or similar spindles. Carl Staufert. Ger. P. 709 802, Aug. 27, 1941. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Spool changer. Device for exchanging a wound spool. Branz (Friedrich) Firma. Ger. P. 710 213, Sept. 6, 1941. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Spooling. Cross spooling machine. Müller (Franz). Ger. P. 711 324, Nov. 18, 1941. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Cross spooling. Method of producing cross spooling. Vieweg, Hamel (Carl) A. G. Ger. P. 711 612, Oct. 3, 1941. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947). TTD: 5-48

Winder. Winder. W. Schlafhorst & Co. Ger. P. 711 954, Oct. 9, 1941. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Cross thread collector. Cross thread collector. Johannes Fischer. Ger. P. 712 356, Oct. 29, 1941. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Cross-winder. Cross-winder. Schweiter Maschinenfabrik A. G. Ger. P. 712 367, Oct. 17, 1941. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawings included. TTD: 5-48

Spooling. Device for receiving the wound spool from the spooling machine. Geiringer, Halstenbach & Co. Ger. P. 713 669, Nov. 12, 1941. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Winding. Device for receiving the wound spool from winding machines. Treckmann, Halstenbach & Co. Ger P. 715 055, Dec. 12, 1941. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Spooling. Device for receiving the wound spool from a spooling machine. Treckmann, Halstenbach & Co. Ger. P. 719 736, Apr. 16, 1942. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Spooling. Thread guiding arrangement for cross spooling machine. Angelo Barzahi. Ger. P. 721 114, May 26, 1942. *Bibl. Sci. Ind. Reports 4,* 838 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Spool holder. Jointed spool holder for cross spooling. Operbeck. "Rhodiaseta" Deutsche Acetat-Kunstseiden A. G. Ger. P. 722 086, June 30, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Tensioning device. Thread tension device for spooling, chaining, warping, and similar winding machines. Hertel. Sächsische Webstuhlfabrik. Ger. P. 722 443, July 10, 1942. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Spooling. Spooling machine for producing cross-wound bobbins. Friedrich Hartmann. Ger. P. 723 556, Aug. 6, 1942. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Winder guide. Thread guiding drum for winders. Reiners & others. W. Schlafhorst & Co. Ger. P. 727 300, Oct. 30, 1942. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Yarn processing III 5

Packaging yarn spools. Apparatus for packing yarn spools. Karl Göttges & Heinrich Göttges. Ger. P. 726 039, Oct. 5, 1942. 6 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947). TTD: 5-48

Thread cleaner. Thread cleaner. Hans Anhegger. Ger. P. 718 270, Mar. 7, 1942. *Bibl. Sci. Ind. Reports 4,* 838 (Feb. 14, 1947).

Drawing included. TTD: 5-48

Yarn products III 6

Nylon cord. Nylon-steel dobby cord. Anon. *Textile Industries 111,* No. 10, 138 (Oct. 1947).

Ny-Cord, a dobby cord of steel cable encased in molded nylon, is briefly noted. TTD: 5-48

Wool nub yarn. Manufacture of woolen nub yarn. Louis A. Fiori. *Textile Industries 111,* No. 8, 101-5, No. 9, 101-4, 106, 108 (Aug.-Sept. 1947).

Woolen nub yarn is a novelty yarn with which small nubs of brightly colored material are entwined. The raw materials, mixing, picking, oiling, carding, and other information in its manufacture are reviewed.

TTD: 5-48

Air hose. Light weight air hose. Anon. *Textile Industries 111,* No. 8, 145 (Aug. 1947).

A light weight air hose with rayon strength members is used where ordinary air hose is too heavy and cumbersome. TTD: 5-48

Elastic fiber band. Method and device for producing elastic fiber bands from artificial fibers. Bernhardt (F.) Firma. Ger. P. 721 045, May 22, 1942. *Bibl. Sci. Ind. Reports 5,* 838 (Feb. 28, 1947).

Drawing included. TTD: 5-48

YARN TO FABRIC IV

Yarn preparation IV 1

Sizing. Process for the sizing of rayon. Textilausrüstungs-Ges. Ger. P. 705 263, Apr. 22, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Washing baths at pH 7.5 to 9.5 contain proteins, monovalent aliphatic alcohols with more than 8 C, and hygroscopic agents. TTD: 5-48

Sizing rayon. Process for the sizing of rayon. Louis Blumer. Ger. P. 706 824, June 6, 1941. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

TTD: 5-48

Beaming machine. Warp beam drive for beaming machine. Hertel. Sächsische Webstuhlfabrik. Ger. P. 713 789, Nov. 14, 1941. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawings included. TTD: 5-48

Thread guard. Electric thread guarding device for warp lattices. Müller (Franz) Komm.-Ges. Ger. P. 718 548, Mar. 14, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5--48

Beaming. Cutting and beaming machine. Kurt Metzler. Ger. P. 718 884, Mar. 23, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Thread brake. Thread brake for a warp lattice. Spinnerei & Weberei Kottern. Ger. P. 720 149, Apr. 25, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawings included. TTD: 5-48

Moisture control. Process and container for maintaining a definite degree of moisture in yarn package windings. Keyser. Forschungsgesellschaft Deutscher Wollkämmer und Kammgarnspinner E. V. Ger. P. 724 436, Aug. 27, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947).

TTD: 5-48

Warper. Warp cutting and beaming machine. Kurt Metzler & Waldemar Liebchen. Ger. P. 726 420, Oct. 13, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Tensioning. Thread tension device especially for warp lattices. Küppers, Müller (Franz) Komm.-Ges. Ger. P. 728 856, Dec. 4, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Weaving IV 2

Plastic material. Woven plastic material. Anon. *Engineering 165,* No. 4291, 388 (Apr. 23, 1948).

Announcement is made of a new woven material to be known as Tygan, made from Bexan, a yarn based on synthetic resin compounds. It is produced in flexible filaments in gauges between 0.010 and 0.012 in., with a strength of 25,000 lb. per square in., and can be built-up into various weaves which are particularly resistant to weather conditions, including tropical conditions, as well as to moisture, acids, alkalis, microorganisms and bacteria. It is also stainproof, and grease and oil are easily removed from it. TTD: 5-48

Heavy fabric. Heavy weaving for semi-rigid washable materials. Rheinische Textilfabriken A. G. Ger.

P. 716 801, Jan. 29, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Hand weaving. Hand weaving device for weaving strips of leather or fabric. Martin Haller. Ger. P. 724 244, Aug. 29, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Looms IV 2 a

Picker stick. Impact and impulse transmitting device, especially pickers for looms. Halbig & Zychlinski, Consortium für Elektrochemische Industrie GmbH. PB 727 386, Nov. 2, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947). TTD: 5-48

Pile fabric loom. Pile fabric loom. Anon. *Textile Industries 111,* No. 10, 144 (Oct. 1947).

An extra heavy, double-shuttle pile fabric loom for handling cotton, wool, silk, rayon, jute, nylon, and other synthetic yarns is briefly described. TTD: 5-48

Straps and pickers. Synthetic loomstraps and pickers. Anon. *Textile Industries 111,* No. 10, 157 (Oct. 1947).

Loom straps and pickers of a tough synthetic material, Tex-Hide, are briefly noted. TTD: 5-48

Draper Loom Fixing. Ben H. Crawford. W. R. C. Smith Publishing Co., 1020 Grant Bldg., Atlanta, Ga.; 164 pp.

Reviewed in *Textile Industries 111,* No. 10, 147-8 (Oct. 1947). TTD: 5-48

Shuttle. Loom shuttle. Wilhelm Hinney. Ger. P. 704 529, Apr. 1, 1941. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Bobbin feeler. Electric bobbin feeler. Wiggers, Vereinigte Seidenwebereien A. G. Ger. P. 707 118, June 13, 1941. *Bibl. Sci. Ind. Reports 5,* 934 (Mar. 1947).

Drawings included. TTD: 5-48

Loom shaft. Loom shaft. Paul Dathe. Ger. P. 707 130, June 14, 1941. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Cutting thread. Weft-thread cutting device. Carl Valentin & Textilmaschinenfabric Schwenningen GmbH. Ger. P. 707 572, June 26, 1941. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Loom device. Device for raising or lowering the stocks or threads in looms. Emma W. Kleberg. Ger. P. 707 685, June 30, 1941. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Loom. Loom for producing various fabrics. Erlaf Groetschel & Paul Wendt. Ger. P. 708 407, July 21, 1941. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Shuttle changing box. Arrangement for connecting the automatic shuttle changing box in interchangeable looms. Thomas, Carl Zangs Maschinenfabrik A. G. Ger. P. 709 605, Aug. 21, 1941. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Shuttle. Loom shuttle spindle. Adolf Kuhn. Ger. P. 709 805, Aug. 27, 1941. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Feeding weft yarn. Weft-thread feed. Raymond Dewas. Ger. P. 711 507, Oct. 2, 1941. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawings included. TTD: 5-48

Lay drive. Weaving lathe drive for single and double lathe strokes. Ger. P. 711 695, Oct. 4, 1941. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Loom shaft. Loom shaft. Paul Dathe. Ger. P. 712 944, Oct. 29, 1941. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. Supplement to patent 707 130. TTD: 5-48

Warp beam. Loom warp beam subdivided in separate pieces. Kiessig. Sächsische Webstuhlfabrik. Ger. P. 713 670, Nov. 17, 1941. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawings included. TTD: 5-48

Jacquard loom. Pre needle work for the Jacquard loom. Stuhdreier, Carl Zangs Maschinenfabrik A. G. Ger. P. 714 772, Dec. 6, 1941. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Shuttle. Electrically driven shuttles for circular looms. Arnold Teltsch. Ger. P. 717 762, Feb. 21, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Shuttle drive. Circular loom with electric shuttle drive. Arnold Teltsch. Ger. P. 717 995, Feb. 27, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Picker stick. Loom picker. Kuhmen, Deutsche Werke Kiel A. G. Ger. P. 720 996, May 21, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Hand loom. Shaft-drive for hand-looms. Wilhelm Unzeitig. Ger. P. 722 446, June 10, 1942. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Loom. Circular loom with an independent electric drive for the shuttle. Georges E. Ezbelent. Ger. P. 722 722, July 18, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Clutch. Release clutch for looms. Siemens-Schuckertwerke A. G. Ger. P. 725 880, Oct. 1, 1942. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Reed drive. Weaving reed drive for small band loom. Excelsior Handels, A. G. Ger. P. 727 550, Nov. 5, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Weaving. Loop-fast burled weaving. Müller, Weberei Burghardt Vossen. Ger. P. 727 804, Nov. 12, 1942. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947).

Drawings included. TTD: 5-48

Loom device. Pick device for underdrive looms. Albert Kapellmann. Ger. P. 728 753, Dec. 3, 1942. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Shuttle driving device. Device for driving the weaving shuttle on a hand loom. Franz Büttner. Ger. P. 728 996, Dec. 7, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Loom. Procedure and loom for producing Gobelin tapestries. Rudolf Chwalla. Ger. P. 729 388, Dec.

15, 1942. *Bibl. Sci. Ind. Reports 4,* 839 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Control devices IV 2 b

Replacing shuttles. Device for automatically replacing the shuttle in looms. Fitz, Maschinenfabrik Benninger A. G. Ger. P. 719 363, Apr. 11, 1942. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

Drawings included. TTD: 5-48

Measuring length. Process for measuring the length of textiles. A. Monforts. Ger. P. 724 076, Aug. 17, 1942. 4 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947). TTD: 5-48

Guard for warp threads. Mechanical guard for warp threads in loom shafts. Fritz Reh. Ger. P. 726 822, Oct. 21, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Regulating the laying head. Textile-laying machine with device for regulating the stroke length of the laying head. A. Monforts. Ger. P. 729 430, Dec. 16, 1942. 4 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947). TTD: 5-48

Fabric construction IV 2 c

Seersucker contraction. Contraction in seersuckers. Geo. W. Edwards, Cluett Peabody, Inc. *Textile Industries 111,* No. 7, 82-3 (July, 1947).

The relation of seersucker stripe and ground yarn contraction, the manner the fabric is run on the loom, the kind of yarns used in seersuckers, and how the yarns are slashed, amount of size, etc., are discussed.

TTD: 5-48

Knitting IV 3

Knitting machines IV 3 a

Knitting machine. Four-section full-fashioned machine featured by Reiner. Anon. *Textile Industries 111,* No. 8, 189 (Aug. 1947).

A brief note on the main features of a 4-section full-fashioned hosiery machine, the Twin Knitter.

TTD: 5-48

Links and links machine. Komet links & links machines. K. O. Metz. *Textile Industries 111,* No. 9, 185-8, 190, 192, No. 11, 183-4, 186, No. 12, 199, 201-2, 205 (Sept., Nov.-Dec. 1947).

The eyelet closing device of the links and links knitting

machine is discussed in detail. Other changes and improvements found on late model machines are also reviewed (cont.). TTD: 5-48

Pattern chain. Pattern chain drive. Anon. *Machine Design 20,* No. 4, 126-7 (Apr. 1948).

An endless pattern chain for knitting machines controls the ratcheted advance of the pattern drum from which all functions of the machine are governed. Yarn changes, number of courses in each portion of a stocking, knitting speed changes, etc., are initiated and regulated by the master cams of the pattern drum in accordance with the arrangement of the operational links in the chain, which are spaced to provide the desired cycle. TTD: 5-48

Thread holder. Plexiglas thread holder. Anon. *Textile Industries 111,* No. 10, 268-9 (Oct. 1947).

An illustrated description of a Plexiglas box for holding bobbins of nylon to prevent moisture absorption in the production of hosiery. TTD: 5-48

Control devices — IV 3 b

Knitting machine attachment. Device prevents double dips of narrowing mechanism. Anon. *Textile Industries 111,* No. 8, 182, 184 (Aug. 1947).

An illustrated description of an attachment for a full-fashioned hosiery machine that will stop the machine if the narrowing mechanism starts to make a double dip. TTD: 5-48

Stop motions. Electrical stop motions. Anon. *Textile Industries 111,* No. 7, 178-80, 182 (July, 1947).

A review of the stop motions used on knitting machines, with a comparison of mechanical and electrical motions. TTD: 5-48

Fabric construction — IV 3 c

Hosing and tubing. Method for producing hosing and tubing. Schwarze, I. G. Farbenindustrie A. G. Ger. P. 719 254, Apr. 2, 1942. *Bibl. Sci. Ind. Reports 4,* 840 (Feb. 28, 1947). TTD: 5-48

Special fabrics — IV 4

Tape. Scalloped tape for protection of seams. H. Lohmann. PB 51971, Feb. 1937. 9 pp. *Bibl. Sci. Ind. Reports 4,* 409 (Jan. 31, 1947). Price: $1.00 (Microfilm); $1.50 (Enlargement print).

Tapes of artificial silk and mixed fabrics (cotton and cell wool with artificial silk) were subjected to tension and adhesion tests. In view of the raw material shortage, such tapes, particularly a firm and impregnable web

of scrap yarn, are well suited to replace high-grade fabrics for airfoil coverings. Abstract prepared at Headquarters Air Material Command, Wright Field, Dayton, Ohio. TTD: 5-48

Umbrella cloth. German umbrella cloth industry: Weaving, yarn dyeing, waterproofing and finishing. W. Aufenast & others. PB 58247, Nov. 1946. 26 pp. *Bibl. Sci. Ind. Reports 4,* 882 (Mar. 7, 1947). Price: $1.00 (Microfilm); $2.00 (Photostat).

This report on the German umbrella cloth industry consists of 2 parts and 3 appendixes: Part I, Weaving; part II, yarn dyeing, waterproofing and finishing, appendix A, note on T. A. G. "Aufsteck" yarn dyeing machine; appendix B, details of manufacture of persistol Grund B; and appendix C acetate rayon manufacture. It was concluded that the whole tradition of the industry is that of the silk trade, highly specialized and employing skilled and experienced work people in all sections. Most of the equipment seen was fairly old and included looms which were 20 to 30 years old. TTD: 5-48

Shearing. Installation method for shearing machine cutter supports. Kurt Metzler. Ger. P. 722 675, July 16, 1942. *Bibl. Sci. Ind. Reports 4,* 841 (Feb. 28, 1947).

Drawing included. TTD: 5-48

Fabric processing — IV 5

Carpet processing. Instrument control. Anon. *Textile Industries 111,* No. 7, 75-7 (July, 1947).

Instrument control in carpet processing and testing at a carpet company (Alexander Smith & Sons) is discussed. TTD: 5-48

Drying. Suction-type cylinder drier. Anon. *Textile Industries 111,* No. 10, 161 (Oct. 1947).

A suction-type cylinder drier and its operation are briefly described and illustrated. The drier reduces the time in finishing and provides precision control of quality. TTD: 5-48

Singeing. Portable infrared singeing unit. Anon. *Textile Industries 111,* No. 7, 141 (July, 1947).

A portable gas-fired infrared singeing unit, that may be adjusted to any position or heat focus and is particularly adaptable for drying blankets, heavy cloths, etc., is noted. TTD: 5-48

Sprayer. Ball bearing sprayer. Anon. *Textile Industries 111,* No. 10, 165 (Oct. 1947).

The Allen ball bearing sprayer for kier and cooker liquor distribution is described and illustrated. TTD: 5-48

Drying. Flat-drying apparatus for textiles which shrink. Friedrich Haas. Maschinenfabrik K. G. Ger. P. 701 317, Jan. 14, 1941. 4 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947). TTD: 5-48

Stretching and drying. Process and appliance for stopping textile stretching and drying machines. H. Krantz. Ger. P. 707 319, June 19, 1941. 4 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

TTD: 5-48

Shaping and finishing. Process and appliance for the shaping and finishing of textiles, especially stockings, on forms. Herman J. Schwabe. Ger. P. 707 413, June 21, 1941. 4 pp. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947). TTD: 5-48

Stretching. Wide motorized roller for stretching, with an elastic covering. Anna Greis. Ger. P. 709 183, Aug. 8, 1941. 4 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947).

This roller is used in stretching textiles; the ends of the covering are joined with controlling disks. TTD: 5-48

Applying moisture. Moistening appliance for stockings, socks, etc., stretched over forms. Fritz Schuster. Ger. P. 711 374, Sept. 30, 1941. 4 pp. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

TTD: 5-48

Roller. Divided roller for gauze spacers. Otto. Sächsische Textilmaschinenfabrik. Ger. P. 712 137, Oct. 13, 1941. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947).

Drawing included. TTD: 5-48

Stretching and drying. Member for stretching and drying machines which combine pincers action with a safeguarding of the material. Moritz Jahr, A. G. Ger. P. 715 473, Dec. 22, 1941. 3 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

Addition to patent 668 385. TTD: 5-48

Wet shaping. Wet shaping apparatus for stockings of different lengths. Schulze & Kühn. Ger. P. 715 591, Jan. 3, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947). TTD: 5-48

Crinkling fabrics. Apparatus designed to crinkle tissues in their longitudinal direction. C. G. Haubold. Ger. P. 718 624, Mar. 17, 1942. 5 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947).

TTD: 5-48

Crinkling fabrics. Appliance designed to crinkle tissues in their longitudinal direction. C. G. Haubold. Ger. P. 720 368, May 4, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

TTD: 5-48

Treating stocking. Singeing device in a shaping apparatus designed for treating stockings. Schulze & Kühn. Ger. P. 721 665, June 12, 1942. 5 pp. *Bibl. Sci. Ind. Reports 4,* 933 (Mar. 7, 1947).

TTD: 5-48

Drying. Hot-air drying apparatus for textiles. Georg Schlenk. Ger. P. 726 171. *Bibl. Sci. Ind. Reports 4,* 932 (Mar. 7, 1947). 3 pp. TTD: 5-48

Straightening cloth. Apparatus for the straightening of textile webbing. Rudolf Horn. Ger. P. 729 728, Dec. 21, 1942. 4 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947). TTD: 5-48

Fabric applications IV 6

Multilayer fabric. Process for the manufacture of multilayer stiff textile fabric. Knopf & Scholz. I. G. Farbenindustrie A. G. Ger. P. 707 321, June 19, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

Intermediate fabrics are used which are finished with copolymers of acrylonitrile and vinyl ethers.

TTD: 5-48

CHEMICAL RAW MATERIALS V

Detergents. Chemicals by Hart. Anon. *Textile Industries 111,* No. 10, 175 (Oct. 1947).

Properties of some new synthetic detergents and wetting agents are described. TTD: 5-48

Pectin. Pectin—its extraction and utilization. C. W. Woodmansee. *Econ. Botany 2,* No. 1, 88-91 (Jan.-Mar. 1948).

The nature, sources. preparation and uses of pectin are briefly described. For finishing textiles, the pectin treatment is claimed to be simpler than the starch treatment and does not require the auxiliary substances generally used with starch. TTD: 5-48

Plastics and textiles. Plastics vs. textiles. Anon. *Textile Industries 111,* No. 9, 90-1 (Sept, 1947).

A brief discussion on the effect of plastics on the textile industry. TTD: 5-48

Textile chemicals. New products by Carbide and Carbon. Anon. *Textile Industries 111,* No. 10, 173 (Oct. 1947).

Notes on Carbowax, Cellosize, and tergitol, chemicals for processing textiles, are given. TTD: 5-48

Textile chemicals. Onyx developments. Anon. *Textile Industries 111,* No. 10, 167 (Oct. 1947).

A brief review of some new compounds for processing textiles. TTD: 5-48

Textile chemicals. Processing chemicals. Anon. *Textile Industries 111,* No. 10, 167 (Oct. 1947).

An aromatic penetrant, a plasticized aliphatic triamide (Meleine), and an aromatic amide (Dileine) are briefly noted. TTD: 5-48

Wetting agents. Wetting agents. Anon. *Textile Industries 111,* No. 10, 171 (Oct. 1947).

Repcol and Repcolene, 2 new wetting agents, are noted. TTD: 5-48

Plastics and elastomers V 1

Cellulose ethers. Water-soluble cellulose ethers. W. A. Caldwell & A. J. Walters. *Research 1,* 248-53 (Mar. 1948).

A review of the chemistry and recent industrial applications of the water-soluble ethers is given, with special emphasis on the properties and uses of sodium carboxymethyl cellulose. 23 references. TTD: 5-48

Synthetic polymers. Some physico-chemical aspects of synthetic polymers. L. D'Or. *Chimie et Industrie 59,* No. 3, 223-30 (Mar. 1948).

Some of the problems presented by the chemistry of polymerization and its applications are outlined and suggestions for further research in this field are offered. The relationship between physical properties and the molecular structure of very large molecules (*i.e.,* cellulose fibers, elastomers and plastic materials) is studied, with special reference to the resistance of these materials to traction. TTD: 5-48

HIGH POLYMERS. VI. MECHANICAL BEHAVIOR OF HIGH POLYMERS. Turner Alfrey, Jr. Interscience Publishers, Inc., New York & London; 1948; 581 pp.; price $9.50.

Reviewed in *Can. Chemistry & Process Industries 32,* No. 3, 248 (Mar. 1948). TTD: 5-48

INJECTION MOLDING OF PLASTICS. Islyn Thomas. Rheinhold Publishing Co., New York: 534 pp.; price $10.00.

Reviewed in *Machine Design 20,* No. 4, 208 (Apr. 1948). TTD: 5-48

MACROMOLECULES. I. PHYSICS AND STRUCTURE OF PLASTICS. P. Piganiol. Dunod, edit., Paris; 1947; 275 pp.; price 760 f.

Reviewed in *Chimie et Industrie 59,* No. 3, 271 (Mar. 1948). TTD: 5-48

PLASTICS MANUAL. H. R. Fleck. Published for Temple Press, Ltd., Bowling Green-Lane, London, E. C. 1, by the English Universities Press, Ltd., St. Paul's House, Warwick-Square, London, E. C. 4; price 15s.

Reviewed in *Engineering 165,* No. 4287, 293 (Mar. 26, 1948). TTD: 5-48

SCIENCE OF PLASTICS. I. Edited by H. Mark & E. S. Proskauer. Interscience Publishers, Inc., New York & London; 1948; 632 pp.; price $9.00.

Reviewed in *Can. Chemistry & Process Industries 32,* No. 3, 248 (Mar. 1948). TTD: 5-48

SYNTHETIC PLASTIC MATERIALS, A. Aita. Edition 2; Soc. Montecatini, Milan; 1947; 150 pp.; price 400 L.

Reviewed in *La Chimica e L'Industria 29,* No. 12, 313 (Dec. 1947). TTD: 5-48

Cellulose derivatives. Preparation of nitrogen-containing cellulose derivatives. Voss. Kalle & Co. A. G. Ger. P. 719 241, Apr. 2, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 435 (Jan. 31, 1947). TTD: 5-48

Surface-active compounds V 2

Macromolecular products. Natural and synthetic macromolecular products. H. Staudinger. *Die Makromolekular Chemie 1,* Nos. 1-2, 7-21 (Sept. 1947).

A review. 27 references. TTD: 5-48

Soaps. Process for the preparation of soaps which do not develop alkali upon washing. Carl Stiepel. Ger. P. 715 439, Dec. 23, 1941. *Bibl. Sci. Ind. Reports 4,* 911 (Mar. 7, 1947).

Addition to patent 708 437. TTD: 5-48

CHEMICAL PROCESSING VI

Finishing. Finishing equipment by Grand Rapids. Anon. *Textile Industries 111,* No. 10, 256 (Oct. 1947).

A spreader for removing twist from wet fabric; a machine which steams fabrics, spreads it out to width, slits one edge, and cuts the sewed edge off on the side opposite the slittage; and a machine which cuts the sewed edge and opens the fabric up to a single thickness are described. These machines were developed for finishing tubular knit fabrics and tricot cloth. TTD: 5-48

Slasher control. Sensitivity controller for slashers. Anon. *Textile Industries 111,* No. 10, 148 (Oct. 1947).

Sensitivity adjustments for slashers are made by a

simplified controller, features of which are briefly described. TTD: 5-48

Weighting textiles. Process for weighting textiles. Weiss, Zschimmer & Schwarz Chemische Fabrik Dölau. Ger. P. 708 869, Aug. 2, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 934 (Mar. 7, 1947). TTD: 5-48

Finishing textiles. Finishing textiles with baths containing $MgCl_2$. Zschimmer & Schwarz Chemische Fabrik Dölau. Ger. P. 710 661, Sept. 18, 1941. 2 pp. *Bibl Sci. Ind. Reports 4,* 934 (Mar. 7, 1947). TTD: 5-48

Coatings. Process for the production of shrinking lacquerlike coatings on flexible bases. Tönges. Ger. P. 713 687, Nov. 13, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 911 (Mar. 7, 1947). TTD: 5-48

Drying. Suspended drying appliance for the treatment of crinkled textiles. Ernst Gessner. Ger. P. 715 472, Dec. 22, 1941. 5 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947). TTD: 5-48

Washing. Appliance for washing and spreading out skeins. H. Behnsen & F. Pache. Ger. P. 719 371, Apr. 4, 1942. 4 pp. *Bibl. Sci. Ind. Reports 4,* 433 (Jan. 31, 1947). TTD: 5-48

Treating baths. Process for the prevention or retardation of precipitates, or for the solution of precipitates already formed in textile treating baths. I. G. Farbenindustrie A. G. Ger. P. 720 680, May 12, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 1947). TTD: 5-48

Finishing. Process for finishing textiles. Eckelmann & Knoch. I. G. Farbenindustrie A. G. Ger. P. 724 424, Aug. 26, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

The textiles are treated with solutions which contain, beside HCHO, salts of imido ethers or amidines. TTD: 5-48

Washing. Procedure for washing textiles. Schulz & Pauser, I. G. Farbenindustrie A. G. Ger. P. 726 505, Oct. 15, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 434 (Jan. 31, 1947).

Dye baths were prepared which contained, along with water-softening agents, water-soluble salts of polymeric carboxylic acids or their derivatives and quaternary ammonium pyrophosphates. TTD: 5-48

Finishing. Process for finishing textiles. Jülicher & Appelt. Diamalt A. G. Ger. P. 729 609, Dec. 22, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947). TTD: 5-48

Finishing. Formation of a water-insoluble layer on a substrate during textile finishing. N. V. W. A. Scholten's Chemische Fabrieken. Swed. P. 118 283, June 11, 1947. *Chimie et Industrie 59,* No. 3, 274 (Mar. 1948).

A solution of a colloid which swells or dissolves in water and which contains free hydroxyl groups is diluted on the substrate. Etherifying or esterifying agents, together with sufficient alkali for the reaction, are added to the solution which is then evaporated by heating in the presence of alkali. TTD: 5-48

COLOR VII

Finishing rayon. Process for finishing rayon thread. Walter, Röhm & Haas GmbH. Ger. P. 706 879, June 7, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

The thread is treated with solutions which have been prepared from Al phosphate, oxalic acid and water or from a water-soluble Al salt, a water-soluble phosphate, oxalic acid and water; the acidity of these solutions is reduced by the use of NH_4OH or NaOAc. TTD: 5-48

Dyeing and printing. Process for dyeing and printing cellulose esters and ethers. Zerweck & Kunze, I. G. Farbenindustrie A. G. Ger. P. 729 595, Dec. 22, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 434 (Jan. 31, 1947).

Certain azo dyes and amines of the benzol series are suitable for dyeing and printing cellulose esters and ethers such as rayon. TTD: 5-48

Bleaching VII 1

Bleaching agent. Peracetic acid oxidizing agent. Anon. *Textile Industries 111,* No. 10, 177 (Oct. 1947).

Peracetic acid solutions are effective bleaching agents for textiles and may be used in acid, neutral, or alkaline solutions. TTD: 5-48

Bleaching bast fibers. Process for bleaching linen or other bast fibers on cross-wound bobbins. Klenk & Noder. Elektrochemische Werke München A. G. Ger. P. 710 443, Sept. 13, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947). TTD: 5-48

Bleaching. Process for bleaching vegetable fiber materials, particularly cotton, or of fiber materials from regenerated cellulose or of mixtures thereof. Kling. Elektrochemische Werke Munchen A. G. Ger. P. 719 828, Apr. 17, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947). TTD: 5-48

Peroxide treatment. Process for the treatment of textiles with peroxide baths. Lenssen & Wiegand, Chemische Fabrik Grünau A. G. Ger. P. 728 171, Nov. 21, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947). TTD: 5-48

Dyeing VII 2

Acetate dyes. Improved acetate dyes. Anon. *Textile Industries 111,* No. 7, 141 (July, 1947).

Interchem acetate dyes for dyeing acetate rayon and nylon can be used for producing shades on boxes or on jigs. They are also suitable for application and/or discharge printing. TTD: 5-48

Dye affinity. New method for measuring the affinity of naphthazols. J. Laneres. *Teintex 12,* No. 5, 149-54 (May 15, 1947; *Chimie et Industrie 59,* No. 3, 273 (Mar. 1948).

This method consists in extracting the dye from the fiber with an appropriate solvent (*e.g.,* C_6H_6, $C_6H_5NO_2$). The color of the extract is then compared photoelectrically with that of a known quantity of the dye. The concentration of dye in the extract can then be read from a calibration curve; thus an immediate measure of the affinity of the dye is obtained. TTD: 5-48

Dye kettle. Combination washer and dye kettle. Anon. *Textile Industries 111,* No. 8, 141 (Aug. 1947).

A brief note on a combination washer and dye kettle for light weight woolens and worsted fancies and blends. TTD: 5-48

Dyes. Ciba products. Anon. *Textile Industries 111,* No. 10, 169 (Oct. 1947).

New colors which have been added to the Coprantine series of dyes are given, and a new cation-active material is noted. TTD: 5-48

Dyes. DuPont colors. Anon. *Textile Industries 111,* No. 10, 173 (Oct. 1947).

A review of several new dyes produced by DuPont. TTD: 5-48

Dyes. Improved pigment and acetate colors. Anon. *Textile Industries 111,* No. 10, 165 (Oct. 1947).

Notes on new pigment colors for pigment printing and acetate dyes for box or jig dyeing are given. TTD: 5-48

Dyes. Indigosols. Ben Verity, Carbic Color & Chemical Co., Inc. *Textile Industries 111,* No. 8, 95-7, No. 9, 87-9 (Aug.-Sept. 1947).

A review of the history and development of Indigosols.

Applications of these dyes for dyeing and printing, including formulas and operations, are given. TTD: 5-48

Dyes. Sandoz products. Anon. *Textile Industries 111,* No. 10, 169 (Oct. 1947).

Properties of Pyrazol dyes and a protective colloid, Lanasan, used in vat dyeing, are reviewed. TTD: 5-48

Dyebox. Blickman dyebox. Anon. *Textile Industries 111,* No. 10, 171 (Oct. 1947).

Features of a stainless steel dyebox are briefly described and illustrated. TTD: 5-48

Dyeing and finishing. Dyeing and finishing aids. Anon. *Textile Industries 111,* No. 10, 173 (Oct. 1947).

Brief notes on Anthomine, a dyeing auxiliary; Arko Finish A, a finishing agent; and Dergon OM, a synthetic detergent. TTD: 5-48

Lichen dyes. Economic uses of lichens. Geo. A. Llano. *Econ. Botany 2,* No. 1, 15-45 (Jan.-Mar. 1948).

The history, uses, biology and chemistry of lichens are reviewed. Interest in lichen dyes is being revived since the production of Harris Tweed cloth is dependent upon them. TTD: 5-48

Steamer. Stainless steel steamer or ager. Anon. *Textile Industries 111,* No. 9, 139 (Sept. 1947).

A stainless steel ager that is used in the steam pad dyeing range is described. TTD: 5-48

Yarn dyeing machine. Machine dyes and sizes in one operation. Anon. *Textile Industries 111,* No. 8, 143 (Aug. 1947).

An illustrated description of the Batchelder yarn dyeing, sizing and beaming machine. TTD: 5-48

Acid dye. Jean G. Kern (to Allied Chemical & Dye Corp.). USP 2 430 771, Nov. 11, 1947.

Mixed fabrics (*e.g.,* nylon-rayon, nylon-cotton, nylon-wool, etc.) are dyed in strong, even dyeings, in blue shades, with anthraquinone acid dyes. These new dyes may be used simultaneously in a single dyebath with direct dyes for rayon or cotton or other dyes applicable only from a neutral or slightly alkaline dyebath. TTD: 5-48

Dyeing vegetable fibers. Process for the preparation of azo dyes insoluble in water upon materials derived from plants. Zitscher & others. I. G. Farbenindustrie A. G. Ger. P. 707 263, June 17, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 911 (Mar. 7, 1947). TTD: 5-48

Dyeing animal fibers. Process for the preparation of azo dyes insoluble in water upon fibrous materials of animal origin. Zitscher & others. Ger. P. 707 246, June 17, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 911 (Mar. 7, 1947). TTD: 5-48

Dyeing cellulosic fibers. Process for dyeing fibrous natural or regenerated cellulose, using chromable azo dyes. Suckfüll & others. I. G. Farbenindustrie A. G. Ger. P. 709 722, Aug. 25, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 911 (Mar. 7, 1947). TTD: 5-48

Dyeing. Process for dyeing cellulose fibers, mixtures of cellulose fibers and animal fibers, or artificial fibers containing nitrogen. Kirst, I. G. Farbenindustrie A. G. Ger. P. 709 723, Aug. 25, 1941. 4 pp. *Bibl. Sci. Ind. Reports 4,* 911 (Mar. 7, 1947).

The material is treated with a monoazo dyestuff and later with chromates or C salts. TTD: 5-48

Azo dyes. Process for production of water-insoluble azo dyes upon cellulose fibers. Zitscher & others. I. G. Farbenindustrie A. G. Ger. P. 716 757, Jan. 28, 1942. 4 pp. *Bibl. Sci. Ind. Reports 4,* 435 (Jan. 31, 1947). TTD: 5-48

Waterfast colors. Process for improving the water fastness of ice colors. Jellinek, I. G. Farbenindustrie A. G. Ger. P. 718 408, Mar. 11, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 435 (Jan. 31, 1947). TTD: 5-48

Dyes. Process for application of dyes to cellulose esters. Krzikalla & others. I. G. Farbenindustrie A. G. Ger. P. 719 294, Apr. 8, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 434 (Jan. 31, 1947).

Aromatic amines, diazotiable and free of nuclear-attached sulfonic acid groups; or amino-azo dyes, which after diazotizing contain no positions capable of coupling, are applied to the product. Subsequently the compounds are diazotized, whereupon the product is treated with slightly alkaline agents. TTD: 5-48

Bleaching. Process for the bleaching of cotton which is difficult to bleach. Ottmar R. von Reich. & Hugo Weiss. Ger P. 723 613, Aug. 7, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947). TTD: 5-48

Dyeing acetate rayon. Process for dyeing acetate rayon. Ritter, I. G. Farbenindustrie A. G. Ger. P. 723 751, Aug. 10, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 434 (Jan. 31, 1947). TTD: 5-48

Chrome dyeing. Process for dyeing animal fibers

with the acid dyes, *e.g.,* those containing chromium in complex combination. Schöller, I. G. Farbenindustrie A. G. Ger P. 724 494, Aug. 27, 1942. 4 pp. *Bibl. Sci. Ind. Reports 4,* 434 (Jan. 31, 1947). TTD: 5-48

Printing VII 3

Photo printing. New process for photo reproduction on fabric. Anon. *Textile Industries 111,* No. 7, 137 (July, 1947).

In the Photone process the fabric is treated in the same manner as photographic paper and a photograph is developed directly on the fabric. The process may be used for rayon, acetate, cotton, Aralac, velvet, terry cloth, and silk. TTD: 5-48

Printing machine control. Sequence control uses endless belt. Philip W. Vessey. *Machine Design 20,* No. 4, 130 (Apr. 1948).

This type of control is used to actuate a printing machine in the making of feltbase rugs. The control device is an endless belt consisting of metal plates fastened at each end to sprocket-driven roller chains. This device makes it possible to make all changes at one station. Also, it is not necessary to stop the machine to make changes in the size or arrangement of the printing. TTD: 5-48

Printing. Process for printing chromium mordant dyes on animal fibers or cellulose fibers or mixtures of both. Huber & Höfchen, I. G. Farbenindustrie A. G. Ger. P. 729 230, Dec. 19, 1942. 10 pp. *Bibl. Sci. Ind. Reports 4,* 434 (Jan. 31, 1947). TTD: 5-48

Measurement and defects VII 4

Dye chromatogram. Chromatograms of dyes. W. Flügel & A. Koch. *Textil-Rundschau 2,* 204-9 (June, 1947); *Chimie et Industrie 59,* No. 3, 273 (Mar. 1948).

The dye, placed in solution, is drawn by suction through a column containing textile fibers, and the quantity of dye absorbed in each passage is determined colorimetrically. The chromatogram indicates the quality of the dye with respect to uniformity and depth of penetration and then determines the best concentration for the dye bath. TTD: 5-48

Rayon dye identification. Identification of dyes, particularly acetate rayon dyes, in nylon. J. Lanczer. *Textil-Rundschau 2,* 252-4 (July, 1947); *Chimie et Industrie 59,* No. 3, 273 (Mar. 1948).

By washing the nylon with formic acid, the dye is

removed. The direct basic dye can be distinguished from the normal basic dye by the chlorine test. In order to distinguish between basic dyes and acetate rayon dyes, the Schreiber modification of the benzene method is used. TTD: 5-48

Testing dyes. Method for testing dyes for their stability. E. W. Thommen. *Textil-Rundschau 2,* 323-30 (Sept. 1947); *Chimie et Industrie 59,* No. 3, 273 (Mar. 1948).

A gage has been constructed to determine the degree of running or fading of dyes taking place on exposure to dampness, common detergents, and damp friction. TTD: 5-48

PROOFING VIII

Mildewproofing. Mildewproofing agent. Anon. *Textile Industries 111,* No. 7, 139 (July, 1947).

A fungicide, Nuodex 100 W. D., which will mildewproof fabrics, is non-irritating, will not yellow on aging, and does not tender fabrics, is briefly noted. TTD: 5-48

Shrinkproofing. New process controls cottons and rayons. Anon. *Textile Industries 111,* No. 8, 147-8 (Aug. 1947).

The Definized G process, utilizing a glyoxal solution combined with catalysts, will effectively shrinkproof cottons, rayons, and cotton mixtures with rayons. TTD: 5-48

Water repellent. Water-repellent agent. Anon. *Textile Industries 111,* No. 10, 161 (Oct. 1947).

Drytex, a wax emulsion, acts as a water repellent by depositing a layer of wax around the fibers of a fabric. TTD: 5-48

RENDERING TEXTILES IMPERMEABLE AND WATER-REPELLENT. M. Van Overbeke. (Centre de Perfectionnement technique, Cours-conferences, No. 1822, June 10, 1947.) Presses Documentaires, Paris; 15 pp.; price 45 f.

Reviewed in *Chimie et Industrie 59,* No. 3, 274 (Mar. 1948). TTD: 5-48

Water-repellent compound. Preparation of water-repellent compounds. Montclair Research Corp. French P. 918 423, Feb. 7, 1947. *Chimie et Industrie 59,* No. 3, 274 (Mar. 1948).

A nitrile containing at least 9 C atoms in the chain, such as palmitonitrile, is heated with an inorganic acid chloride, such as phosphorus chloride, and an aldehyde, with or without an inert diluent or metal soap, in the presence of a condensing agent. The intermediate reaction product is then reacted with a tertiary amine such as pyridine. The resultant product renders textiles water-repellent. TTD: 5-48

Flameproofing. Fireproofing cellulose. Imperial Chemical Industries, Ltd. French P. 919 288. Mar. 4, 1947. *Chimie et Industrie 59,* No. 3, 274 (Mar. 1948).

Cellulosic materials impregnated with a polyethylenimine are treated with a 10% solution of pentaerythritol-tetra-orthophosphate. The cellulosic materials are then treated with an acidic water solution of hexamethoxymethyl-melamine and heated to about 100°. TTD: 5-48

Waterproofing. Process for the rendering textiles water-repellent. I. G. Farbenindustrie A. G. Ger. P. 704 540, Apr. 2, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

The materials are treated with amino derivatives of 1, 3, 5-triazine. TTD: 5-48

Waterproofing. Process for the manufacture of waterproof textiles. Herrmann & Haenel, Chemische Forschungsges. Ger. P. 708 175, July 14, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947).

The fabrics are treated with the compounds described in patents 609 160 and 548 151, the latter being for the polymerization of mixtures of vinyl esters and fatty oils. TTD: 5-48

Rot proofing. Rot-preventing impregnation for yarns, nets, ropes, or canvas. Rieche, I. G. Farbenindustrie A. G. Ger. P. 709 226, Aug. 9, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

Water-insoluble polyvinyl compounds with a chlorine content of at least 30% are used. TTD: 5-48

Fireproofiing. Process for the fireproofing of textile fabrics. Grundstückgesellschaft Altstadt. Ger. P. 710 382, Sept. 12, 1941. 2 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947).

The fabrics are impregnated with aqueous solutions which contain $(NH_4)_2SO_4$, $NH_4H_2PO_4$, and NH_4HCO_3, preferably $NaHCO_3$. TTD: 5-48

Waterproofing cellulosic fabrics. Process for waterproofing cellulose or cellulose hydrate textiles. Günther & others. I. G. Farbenindustrie A. G. Ger. P. 711 292, Sept. 29, 1941, 2. pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

The material is treated with solutions of substituted isatoic anhydride which are bound with an aromatic group by means of an azo radical. TTD: 5-48

Waterproofing. Process and apparatus for waterproofing textiles. Heinrich Hahn. Ger. P. 719 599, Apr. 13, 1942. 5 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947). TTD: 5-48

Wrinkle proofing. Process for rendering textiles resistant to wrinkling. Axelrad. Deutsche Houghton Fabrik K. G. Ger. P. 728 611, Dec. 1, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 930 (Mar. 7, 1947).

The textiles are treated with resinlike condensation products. TTD: 5-48

Washable and waterproof fabrics. Process for the manufacture of washable and waterproof textile fabrics. Heidensleben. I. G. Farbenindustrie A. G. Ger. P. 728 873, Dec. 7, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

The fabrics are treated first with aqueous dispersions of soft and adhesive, and then with hard, nonadhesive polymeric material. TTD: 5-48

Impregnating fabrics. Process for the impregnation of textile fabrics. Schöller. I. G. Farbenindustrie A. G. Ger. P. 729 286, Dec. 15, 1942. 4 pp. *Bibl. Sci. Ind. Reports 4,* 931 (Mar. 7, 1947).

The compositions of the impregnation agents are given. TTD: 5-48

TESTING AND ANALYSIS IX

Physical properties IX 1

Testing zippers and snaps. Abrasion machine for testing zippers and snaps. Anon. *Textile Industries 111,* No. 9, 152 (Sept. 1947).

The adapting of an abrasion machine for testing zippers and snaps is described and illustrated. TTD: 5-48

Chemical analysis IX 2

Boiling resistance of rayon. Resistance of rayon to boiling and the influence of the manner of washing. A. Zart. *Kunstseide u. Zellwolle 25,* 263-4 (July, Aug. 1947); *Chimie et Industrie 59,* No. 3, 273 (Mar. 1948).

Cloth washed with dilute sodium carbonate is not damaged if contact with air is kept to a minimum. Certain types of washing machines are not suitable because they allow too much contact with oxygen of the air. TTD: 5-48

TEXTILE MILLS X

Buildings, machinery, power X 1

Bleachery. Pepperell's Opelika bleachery. Anon. *Textile Industries 111,* No. 10, 113-20 (Oct. 1947).

Details of construction, heating, boiler plant, and process water at a modern dyeing, bleaching, and finishing plant are described. TTD: 5-48

Loom maintenance. Loom overhaul system. Anon. *Textile Industries 111,* No. 10, 109 (Oct. 1947).

A system of substituting spare looms in the production line, while loom fixers overhaul the regular looms at another location, is discussed. TTD: 5-48

Lubrication. Automatic lubricator for twister rings. Anon. *Textile Industries 111,* No. 8, 139 (Aug. 1947).

A device that automatically lubricates the rings on twisters, gives uniform application of lubricant, is easily maintained, etc., is briefly described. TTD: 5-48

Lubronze bearing. Lubricating saddle. Anon. *Textile Industries 111,* No. 10, 138 (Oct. 1947).

A bearing of bronze, impregnated with graphite, oil, etc., provides a smooth surface for weighting front and back rolls with saddles. TTD: 5-48

Machinery cleaning. Pneumatic roll scrubber and bolster cleaner. Anon. *Textile Industries 111,* No. 10, 155 (Oct. 1947).

The steel rolls of cotton spinning machinery are equipped with pneumatic roll scrubbing machinery to facilitate cleaning the rolls, and a bolster cleaner is used to remove lint and waste from the inside of roving frame bolsters. TTD: 5-48

Machinery developments. Processing machinery by Birch Bros. Anon. *Textile Industries 111,* No. 10, 167 (Oct. 1947).

Developments and improvements in fabric processing machinery are briefly reviewed. TTD: 5-48

Needle bearings. Needle bearing rolls for spinning frames. Anon. *Textile Industries 111,* No. 10, 157 (Oct. 1947).

A note on top rolls, equipped with needle bearings, for use on spinning and roving frames. TTD: 5-48

Pitman ball. New Pitman ball for spinning frames. Anon. *Textile Industries 111,* No. 8, 147 (Aug. 1947).

A Pitman ball for spinning and twister frames is composed of a 3-section unit that requires no oiling after installation. TTD: 5-48

Roll fluting. Roll fluting machine. Anon. *Textile Industries 111,* No. 10, 142 (Oct. 1947).

Spinning rolls may be fluted by a new machine which is described. TTD: 5-48

Twister lubrication. Automatic lubricator for twister rings. Anon. *Textile Industries 111,* No. 10, 148 (Oct. 1947).

A brief description of a device that automatically lubricates the rings on twisters. TTD: 5-48

Lighting and air X 2

Air conditioning. Standard-Coosa-Thatcher continues air conditioning program. Wesley J. Buck, Parks-Cramer Co. *Textile Industries 111,* No. 8, 98-100 (Aug. 1947).

A description of the electric filters, air washers, heating coils, fans, spray pumps, air dampers and other equipment used to control the air supplied to spinning rooms. Experience with the new system through 2 summers has demonstrated the tremendous cooling power of evaporation, especially in connection with adequate controlled ventilation. This has made the use of mechanical refrigeration unnecessary. TTD: 5-48

Air diffuser. Diffuser controls air direction and volume. Anon. *Textile Industries 111,* No. 9, 108 (Sept. 1947).

Ceiling air diffusers may be adjusted to provide any angle of air discharge from vertical to horizontal. Details of the construction of the air diffuser are shown in a sketch. TTD: 5-48

Lint blower. Automatic lint blower for circular machines. Anon. *Textile Industries 111,* No. 8, 190 (Aug. 1947).

An automatic lint blower is briefly described and illustrated. The blower is attached to circular knitting machines to prevent lint and dust from accumulating. TTD: 5-48

Wastes X 3

Waste machine. Waste machine. Anon. *Textile Industries 111,* No. 10, 139 (Oct. 1947).

A brief illustrated description of a waste machine which eliminates the conventional suction fan and may be used to process synthetic wastes. TTD: 5-48

Hazards; operations; efficiency X 4

Apron. New industrial apron. Anon. *Textile Industries 111,* No. 8, 141 (Aug. 1947).

Aprons of Koroseal film are resistant to acids, greases, oils, caustics, etc. TTD: 5-48

Materials handling. Conveyor belts enter full-fashioned fields. Anon. *Textile Industries 111,* No. 9, 198, 200 (Sept. 1947).

The use of conveyor belts to speed up the flow of goods between inspection-pairing and packaging in the full-fashioned hosiery industry is described. TTD: 5-48

Materials handling. Hosiery trays increase efficiency. H. T. Sumner, Wisteria Hosiery Mills. *Textile Industries 111,* No. 7, 175-7 (July, 1947).

The types of hosiery trays and the procedure for their use with routing cards in hosiery mills is discussed. TTD: 5-48

Water. Process water. Anon. *Textile Industries 111,* No. 7, 83-5 (July, 1947).

A report on a roundtable discussion of the AATCC on various problems found in the use of water in textile processing. TTD: 5-48

Water softening. Soft water for textile processes. M. C. McKeown, Cochrane Corp. *Textile Industries 111,* No. 8, 179-80 (Aug. 1947).

The zeolite system of water conditioning is described and illustrated. Applications in the silk, rayon, wool, and cotton industries are briefly reviewed. TTD: 5-48

BASIC SCIENCES XI

Regenerated cellulose swelling. Action of quaternary pyridinium salts of chloromethyl ethers of polyols on regenerated cellulose. J. Lichtenberger & L. Martin. *Textiles* No. 3, 127-37 (Sept. 1947); *Chimie et Industrie 59,* No. 3, 273 (Mar. 1948).

The swelling of regenerated cellulose is considerably decreased and its physical characteristics are improved by treatment with these pyridinium salts for 15 min. at 120–130°. In order to avoid complete degradation due to the acidity of the impregnating solution, the reaction is stopped with sodium acetate. The number and distribution of the active groups in the quaternary salts influence the reaction. TTD: 5-48

TEXTILE RESEARCH XII

British rubber research. Research Association of British Rubber Manufacturers. J. R. Scott. *Research 1,* 265-70 (Mar. 1948).

Subjects ranging from the fundamentals of polymer chemistry and physics to the immediate everyday problems of the rubber manufacturer are being studied by the RABRM, including research on the fundamental mechanisms determining rubber (textile) adhesion. Both natural and synthetic textiles are being tested. TTD: 5-48

Felting. Felting research. Anon. *Research 1,* No. 1, 41 (Oct. 1947).

The British Hat and Allied Feltmakers Research Association has recently been formed at Leeds. Typical re-

search problems to be undertaken by the association are the carroting process and proofing with shellac.

TTD: 5-48

Wool research. Wool Industries Research Association. B. H. Wilsdon. *Research 1,* 214-18 (Feb. 1948).

The history, present scope and future plans of the Wool Industries Research Association are discussed as good illustrations of strength and weaknesses of the Cooperative organization of research. TTD: 5-48

METHODS OF CELLULOSE CHEMISTRY. Edition 2, revised. Chas. Dore. Chapman & Hall, London; 1947; 543 pp.; price 42s.

Reviewed in *Research 1,* No. 1, 43 (Oct. 1947).

TTD: 5-48

The abstract which appeared at top of page 137 in the March issue should read as follows:

Yarn tension. Engineering textile tension. Erwin J. Saxl, Saxl Instrument Co. *Rayon Textile Monthly 28,* 465-7, 539-41, 588-90 (Sept.-Nov. 1947).

Tension on yarns is discussed from the engineering standpoint, particularly with respect to its effect on textile material and the means of measuring it. The danger of stretching yarns beyond the yield point is emphasized. The Saxl yarn tension meter is described and illustrated.

TTD: 3-48

Index to Authors

VOLUME 5, NUMBER 5, MAY 1948

Aita, A. 244
Alfrey, T., Jr. 243
Altfillisch 224
Anhegger, H. 233
Appelt 245
Aufenast, W. 240
Axelrad 253
Barzahi, A. 232
Bässler 223
Behnsen, H. 245
Bischoff, H. 224
Blumer, L. 233
Böttle 224
Buck, W. J. 255
Büttner, F. 237
Caldwell, W. A. 243
Carnap, A. 220
Chwalla, R. 237
Clapham 221
Cockbain, E. G. 220
Crawford, B. H. 235
Dathe, P. 235, 236
Dewas, R. 236
Dilchert 221
D'Or, L. 243
Dore, C. 255
Duerst, J. 226
Dunlap, C. K. 230
Eckelmann 245
Eckert, P. 217, 219
Edwards, G. W. 238
Esselmann 221
Ezbelent, G. E. 237
Fiori, L. A. 233
Fischer, J. 231
Fitz 238
Fleck, H. R. 244
Fleisser 228
Flügel, W. 250
Förster 227
Gavazzi 226
Geiringer 230, 232
Gessner, E. 245
Göttges, H. 232
Göttges, K. 232
Greis, A. 241
Grill, E. 229
Groetschel, E. 236
Groner 219
Grossmann 229
Günther 252
Haas, F. 241
Haenel 252
Hahn, H. 253
Halbig 235
Haller, M. 235
Hartmann, F. 232
Haubold, C. G. 241
Heidensleben 253
Henle 221
Herr, E. 219
Herrbach 217
Herrmann 252
Hertel 232, 233
Hinney, W. 235
Hochsteger 229
Höfchen 250
Horn, R. 242
Huber 250
Husemann, E. 218, 220
Jackson, W. B. 217
Janschek 228
Jellinek 249
Jülicher 245
Kaess, C. 225
Kanert, E. 217
Kapellmann, A. 237
Kern, J. G. 248
Keyser 224, 234
Kiessig 236
Kirst 249
Kleberg, E. W. 236
Klenk 246
Kling 246
Kluftinger, H. 222, 223, 224
Knoch 245
Knopf 242
Koch, A. 250
Korte 218
Krantz, H. 241
Krienelke 225
Krzikalla 249
Kuhmen 237
Kühn 241, 242
Kuhn, A. 236
Kunze 246
Küppers 234
Lanczer, J. 250
Landwehr, R. 227
Laneres, J. 247
Lenssen 247
Lichtenberger, J. 256
Liebchen, W. 234
Liebscher, P. 224
Llano, G. A. 248
Lohmann, H. 239
Martin, L. 256
McIlroy, R. J. 217
McKeown, M. C. 256
Metz, K. O. 238
Metzer 218
Metzler, K. 234, 240
Michaelis, F. 222
Monforts, A. 238
Müller 228, 237
Müller, F. 231, 234
Negishi, K. E. 228
Neher, A. 229
Noder 246
Oertel 228, 229
Opderbeck 228
Operbeck 232
Otto 241
Pache, F. 245
Paul, F. 229
Pauser 245
Piganiol, P. 243
Quosig 227
Raible 222, 225, 229
Reh, F. 238
Rehm, L. 225
Reiners 230, 232
Rieche 242
Rieter, J. J. 222
Ring 228
Ritter 249
Rohm 219
Saxl, E. J. 256
Schlegel 226
Schlenk, G. 242
Schlipp 224
Schmauder 221
Schmitt 223
Schneider 225
Schnell, H. 220
Schoeller 219
Schöller 250, 253
Scholz 242
Schorsch 225
Schubert 227
Schulz 245
Schulze 241, 242
Schuster, F. 241
Schwabe, H. J. 241
Schwarze 239
Scott, J. R. 256
Seifert 227
Sibbing, H. 223
Sieper, C. 224
Sippel 219, 220
Stahlecker 222, 225
Staudinger, H. 217, 220, 244
Staufert, C. 227, 231
Stehlecker 227
Stein 226
Steinhage 225
Stribling, J. W. 230
Stiepel, C. 244
Stock, H. 217
Stuhdreier 236
Suckfüll 249
Sumner, H. T. 256
Szymanek, F. 218
Teltsch, A. 237
Thomas 236
Thomas, I. 243
Thommen, E. W. 251
Tinsley, J. S. 219
Toenniessen, E. 223, 225
Tönges 245
Treckmann 232
Unzeitig, W. 237
Valentin, C. 235
Van Overbeke, M. 251
Verity, B. 247
Vessey, P. W. 250
Vieweg 231
Vogel 227
Von Reich, O. R. 249
Voss 244
Walter 246
Walters, A. J. 243
Waltz 228
Weiss 245
Weiss, H. 249
Wendt, P. 236
Wiegand 247
Wiggers 235
Wilsdon, B. H. 255
Woodmansee, C. W. 242
Wörn 221
Zart, A. 253
Zerweck 246
Zitscher 248, 249
Zychlinski 235